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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,851	09/23/2003	David C. Chu	10030919-1	3140

7590 09/22/2004  
AGILENT TECHNOLOGIES, INC.  
Legal Department, DL429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER
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NGUYEN, KHAI M

ART UNIT	PAPER NUMBER
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2819

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/668,851

Applicant(s)

CHU ET AL.

Examiner

Khai M. Nguyen

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-39 is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 9-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/23/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The application has not been checked to the extent necessary to determine the presence of all possible typographical and grammatical errors. However, Applicant's cooperation is requested in correcting any errors of which he/she may become aware in the application.

### ***Drawings***

2. Fig. 4 is objected because it does not agree with its specification – the other input of the adder 260 does not clearly show that it is coupled to the output of the circuit 208 through path 209 (see page 18, lines 10+). Correction/clarification is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Croisier (US 3,825,737).

Regarding claims 1 & 7, Croisier discloses (see Fig. 1 and the abstract) a method of digitizing first and second signals (3, 4) in imperfect quadrature for obtaining characteristic parameters of the first signal, the method comprising: providing a first signal (3/4), the first signal comprising an inphase quasi-sinusoidal analog signal;

Art Unit: 2819

providing a second signal (4/3), the second signal comprising a quadrature signal; digitizing (by one of the A/D converter 7/8) the first signal at a sampling rate, thereby generating a first plurality of sets of digital signal waveform samples (9/10); digitizing the second signal at the sampling rate (column 4, lines 39-42), thereby generating a second plurality of sets of digital signal waveform samples (10/9), and digitally processing (by at least one of the circuits 15, 17, & 19) successive first and second sets of digital signal waveform samples to generate continually updated digital characteristic parameters representing a characteristic behavior of the first signal.

Regarding claim 2, Croisier discloses the digital characteristic parameters comprise a phase progression of the first/second signals (by the phase correction circuit 19).

Regarding claim 3, Croisier discloses the digital characteristic parameters comprise a phase-offset correction of the first signal (by the circuit 19).

Regarding claims 4-5, Croisier discloses the digital characteristic parameters comprise a magnitude/amplitude/frequency estimate of the first signal (column 2, lines 44-51).

Regarding claim 6, Croisier discloses each of first and second signal waveform samples include integer power of 2 number of samples (column 4, lines 50-52).

Regarding claim 8, Croisier discloses the method of claim 1 also comprises: generating a first best-fit estimate of the first signal for each first set of digital signal waveform samples (by the equation  $S = R \cos\theta$ ); and generating a second best-fit

Art Unit: 2819

estimate of the second signal for each second set of digital signal waveform samples (by the equation  $S = R \sin\theta$ ).

5. Claims 1 & 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Clark et al. (US 3,956,623) (referred hereinafter as "Clark").

Regarding claim 1, Clark discloses (see Figs. 2 & 3) a method of digitizing first and second signals ( $A[t]$  and  $B[t]$ ) in imperfect quadrature for obtaining characteristic parameters of the first signal, the method comprising: providing a first signal ( $A[t]$ /  $B[t]$ ), the first signal comprising an inphase quasi-sinusoidal analog signal; providing a second signal ( $B[t]$ /  $A[t]$ ), the second signal comprising a quadrature signal; digitizing (by one of the circuits 15/ 16; 125/ 126) the first signal at a sampling rate, thereby generating a first plurality of sets of digital signal waveform samples ( $A0$ /  $B0$ ); digitizing (by one of the circuits 15/ 16; 125/ 126) the second signal at the sampling rate, thereby generating a second plurality of sets of digital signal waveform samples ( $B0$ /  $A0$ ), and digitally processing (by the processor 130) successive first and second sets of digital signal waveform samples to generate continually updated digital characteristic parameters representing a characteristic behavior of the first signal.

Regarding claim 6, Clark discloses each of first and second signal waveform samples include integer power of 2 number of samples (column 4, lines 30-37).

***Allowable Subject Matter***

6. Claims 9-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2819

7. Claims 15-39 are allowed.

***Prior Art***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see the attached PTO-892).


***Contact Information***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 571-272-1809. The examiner can normally be reached on 8:30 to 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KN  
September 14, 2004

  
**Michael Tokar**  
Supervisory Patent Examiner  
Technology Center 2800